



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

June 28, 2007

MEMORANDUM

SUBJECT: National Remedy Review Board Recommendations for the Upper Tenmile Creek Superfund Site

FROM: David E. Cooper, Chair *David E. Cooper*
National Remedy Review Board
Office of Superfund Remediation and Technology Innovation (OSRTI)

TO: Carol Rushin, Associate Regional Administrator
Office of Ecosystems Protection and Restoration
U.S. EPA Region 8

Purpose

The National Remedy Review Board (the Board) has completed its review of the proposed cleanup action for the Upper Tenmile Creek Superfund Site in Lewis and Clark County, Montana. This memorandum documents the Board's advisory recommendations.

Context for Board Review

The Administrator announced the Board as one of the October 1995 Superfund Administrative Reforms to help control response costs and promote consistent and cost-effective decisions. The Board furthers these goals by providing a cross-regional, management-level, "real time" review of high cost proposed response actions prior to their being issued for public comment. The Board reviews all proposed cleanup actions that exceed its cost-based review criteria.

The Board evaluates the proposed actions for consistency with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and relevant Superfund policy and guidance. It focuses on the nature and complexity of the site; health and environmental risks; the range of alternatives that address site risks; the quality and reasonableness of the cost estimates for alternatives; regional, state/tribal, and other stakeholder opinions on the proposed actions; and any other relevant factors.

Generally, the Board makes advisory recommendations to the appropriate regional decision maker. The Region will then include these recommendations in the administrative record for the site, typically before it issues the proposed cleanup plan for public comment.



While the Region is expected to give the board's recommendations substantial weight, other important factors, such as subsequent public comment or technical analyses of response options, may influence the Region's final decision. The Board expects the Regional decision maker to respond in writing to its recommendations within a reasonable period of time, noting in particular how the recommendations influenced the proposed cleanup decision, including any effect on the estimated cost of the action. It is important to remember that the Board does not change the Agency's current delegations or alter in any way the public's role in site decisions.

Overview of the Proposed Action

The Upper Tenmile Creek Superfund site is a watershed characterized by historic hard rock mining for gold, lead, zinc, and copper. The last active commercial mining in the Rimini Mining District ended in 1953. Upper Tenmile Creek is also an important source of drinking water for the City of Helena. Mining in the region has resulted in the uncontrolled release of metal contaminants, primarily arsenic, copper, lead, and zinc, to local streams from waste rock, tailings, and contaminated mine discharge water, resulting in contamination of ground and surface water. In 2002, EPA issued a Record of Decision (ROD) calling for actions including excavation of waste rock and tailings, control and treatment for acid mine drainage, improvements to a reservoir to manage stream flows to allow achievement of surface water quality standards, and cleanup of contaminated yard soil. The actions under consideration by the Board were also covered by the 2002 ROD and include excavation and disposal of contaminated roadway materials, construction of a small community wastewater collection and treatment system to replace individual septic systems that may be damaged during the removal of contaminated yard soils, and the development of a community water system to replace contaminated domestic water supplies. While the scope of actions called for in the 2002 ROD has not changed, the costs have escalated considerably leading to reconsideration of these actions by the Board. The Region's preferred alternative is to develop a clean ground water source to serve as the water supply for the community water system, complete the community wastewater system, and replace accessible contaminated material from the Rimini Road with clean material.

NRRB Advisory Recommendations

The Board reviewed the information package describing this proposal and discussed related issues with the EPA project manager Mike Bishop; Montana Office Director, John Wardell; and Montana Department of Environmental Quality (DEQ) representatives Larry Scusa and Sandi Olsen on June 6, 2007. Based on this review and discussion, the Board offers the following comments:

1. The package describes as applicable or relevant and appropriate requirements (ARARs) various Montana DEQ circulars that address technical and design requirements for water and wastewater systems. These circulars were not identified as ARARs in the original 2002 ROD for this site and do not appear to constitute State environmental or siting regulations for purposes of CERCLA section 121(d) and related sections of the NCP. The Board recommends that the Region evaluate whether it might be appropriate to consider these circulars as "to-be-considered"

guidance (TBCs) for purposes of achieving a protective remedy, and if so, to fully analyze and discuss this issue in its decision documents.

2. Information presented to the Board indicated that the Tenmile Creek is used as a drinking water supply by several Rimini residents and as raw water supply by the City of Helena. The Board recommends that the Region coordinate with the State of Montana to determine the appropriate stream surface water use classification and that the Region then evaluate associated ARARs. The decision documents should address whether and when the ARARs will be met or whether a technical impracticability or other ARARs waiver may be necessary. The Region also should evaluate whether the corresponding remedial action objectives (RAOs) for surface water are appropriate for the site.

3. Based on the information available to the Board, the Board does not believe that the community sewage treatment system is necessary to achieve a protective remedy. It appears that individual septic systems can be avoided during yard remediation, and if not, they could be repaired or replaced at significantly less cost than the proposed community sewage system. A number of the septic systems are reported to be failing due to age and other conditions and would have to be replaced at some point irrespective of the mining waste on the properties. The Board also understands that some properties do not currently have a septic system or have a minimal system. Replacing the individual septic systems with the higher cost community sewage treatment system appears to raise a betterment and/or enhancement issue. If there is a betterment/enhancement, the associated incremental cost of a community system should not be borne by the Superfund program; rather, that cost should be the responsibility of the State or other parties.

The package presented to the Board does include an alternative to abandon work on the community sewage system and restore existing septic systems that may be adversely impacted by soil removal activities. The Board believes that this alternative could be protective from a Superfund program perspective, even though the replaced septic systems may not, in some cases, meet current design or engineering specifications for setback and/or depth to ground water. The Board recommends that modified septic system designs for individual and/or group systems be more fully evaluated and considered by the Region.

4. Based on the presentation provided to the Board, the Region appears to be considering a ground water source for the community water supply system as opposed to a less costly surface water source, in order to reduce operation and maintenance (O&M) costs. In fact, draft value engineering of the preferred ground water source indicates its capital costs to be \$1.1 million higher, although the two sources of water are not evaluated separately in the package (e.g., see Table 9-1). The Board recommends that the Region evaluate each water source and other alternatives based on the present worth analysis typically used in the Superfund remedy selection process as indicated in the NCP. The use of the present worth analysis is further described in *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* (EPA/540/G-89/004 October 1988) and *The Role of Cost in the Superfund Remedy Selection*

Process (OSWER Publication 9200.3-23FS, September 1996). If the State would like EPA to implement a more expensive alternative, it should provide the associated incremental funds.

5. No stream discharge data (maximums, minimums, average, 7Q10¹) were provided for Tenmile Creek or its tributaries, so the Board could not assess whether the proposed pumping rate for a community water supply system may impact flow in any of these streams. The time of greatest demand from the ground water source is likely to correspond with annual low flow conditions in the adjacent stream; and depending on the ground water/surface water relationship, ground water withdrawals may impact available aquatic habitat if flow conditions are extremely low. Note that Appendix D, Section D.2.5 (Bullet #4) indicates that "very low flow or complete absence of water" is an important aquatic habitat stressor in Tenmile Creek downstream from Rimini. It is possible that similar low flow conditions occur in the Tenmile Creek tributaries. The Region needs to have appropriate surface and ground water flow and water quality data at each of the potential community well sites (or surface water diversion locations, if that is selected as the water source) so that it can assess the impacts of these withdrawals on the adjacent and downstream ground water/surface water system.

6. The Board recommends that the Region review and reevaluate the cost estimates for the water and sewer components of the remedy. The operation and maintenance cost estimates in Table S5-1 for both the treatment components appear to be low. For example, the Rimini Water and Sewer District's commitment to assume ownership and management of the water and sewer system is based on: 1) its confidence in the O&M cost estimates provided by EPA's contractor CDM and Portage Environmental, and 2) the expectation that there will be near 100% voluntary participation in the future (see May 23, 2007 letter from the Rimini Water and Sewer District). The Board is concerned that if the actual O&M costs exceed the projected, the revenues collected may not be sufficient to maintain the solvency of the Water and Sewer Board and/or the remedy components.

7. The Board recognizes that the scope of the alternatives under discussion for this ROD amendment does not include all of the elements of the 2002 ROD that have not yet been implemented. The Board encourages the Region to continue its efforts to reevaluate the cost and effectiveness of the remaining elements of the 2002 ROD.

8. In the package presented to the Board, the preferred remedy did not include institutional controls (ICs): 1) for those properties where CERCLA hazardous substances will remain above health-based levels after removing the upper two feet of contaminated soil; or 2) for properties where owners do not provide access for cleanup. The Board recommends that the Region explain in the decision documents how protectiveness will be maintained for areas where waste is left in place and that the Region consider use of ICs, such as deed notices, for this purpose.

¹ The 7Q10 statistic is a common stream flow statistic reporting the lowest stream flow for 7 consecutive days that occur on average once every 10 years. The statistic is viewed as a bare minimum to sustain existing habitat in a stream or as the minimum flow available to dilute discharges entering a stream.

The decision documents also should explain that protectiveness for these areas will be evaluated during five-year reviews.

9. Depending on the outcome of the remedial decisions for the water supply and sewage treatment, it may be appropriate for the Region to reevaluate its preference to remove contaminated roadbed soil. If disturbance of the road is found to be unnecessary, a cover of asphalt (e.g. paving) or other material may be an effective and less costly means to contain the contaminated soil/material.

The Board appreciates the Region's efforts in working together with the potentially responsible parties, State, and community groups at this site. We request that a draft response to these findings be included with the draft Proposed Plan when it is forwarded to your OSRTI Regional Support Branch for review. The Regional Support Branch will work with both me and your staff to resolve any remaining issues prior to your release of the Proposed Plan. Once your response is final and made part of the site's Administrative Record, then a copy of this letter and your response will be posted on the Board website (<http://www.epa.gov/superfund/programs/nrrb/>).

Thank you for your support and the support of your managers and staff in preparing for this review. Please call me at (703) 603-8763 should you have any questions.

cc: J. Woolford (OSRTI)
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